CHAPTER 6, FORM B
TRIGONOMETRY

NAME _____
DATE _____

Do not use a calculator for this test except where indicated.

1. State the domain and range of $\cos^{-1} x$.

1. D: _____
R: _____

For Problems 2-3, give the exact real number value of y. For Problem 4, use a calculator to give an approximate value to the nearest hundredth.

2. $y = \cos^{-1} 0$

2. _____

3. $y = \arctan(-\sqrt{3})$

3. _____

4. $y = \sec^{-1}(-3)$

4. _____

Find each of the following.

5. sin (arctan 3)

5. _____

6. $\cos^{-1}\left[\tan\left(\frac{\pi}{4}\right)\right]$

6. _____

7. $\sin\left[\arccos\left(-\frac{2}{3}\right)+\arcsin\frac{1}{4}\right]$

7. _____

8. $\sec^{-1}\left[\sec\left(-\frac{\pi}{3}\right)\right] \neq -\frac{\pi}{3}$. Explain.

8. _____

Find each of the following.

5. sin (arctan 3)

Solve the equation for solutions in the interval [0°, 360°). Use a calculator for Problem 12; give the answer to the nearest hundredth of a degree.

9. $\sqrt{3}\tan\theta = 2\sin\theta$

9. _____

10. $2\cos\theta + \sqrt{3} = 0$

10. _____

11. $\sec^2\theta = -2\sec\theta$

11. _____

12. $\sin^2\theta = \frac{1}{3}$

12. _____

Solve the equation for solutions in the interval $[0, 2\pi)$. Use a calculator for Problem 16; give the answer to three decimal places.

13. $2\sin^2 x - \sin x - 1 = 0$ **13.** _____

14. $3 \tan 2x = 0$ **14.** _____

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15. $\sin\frac{x}{2} = 1 - \sin\frac{x}{2}$ **15.** _____

16. $\cos 2x = \frac{3}{4}$ **16.** _____

Solve the equation for x.

17. $y = 3 \cos 2x$ **17.** _____

18. $3y = 5 \sin (x - 4)$ **18.** _____

Solve the equation.

19. $\sin^{-1} 2x = \frac{\pi}{4}$ **19.** _____

20. $\arctan x - \arccos \frac{5}{13} = 0$ **20.** _____